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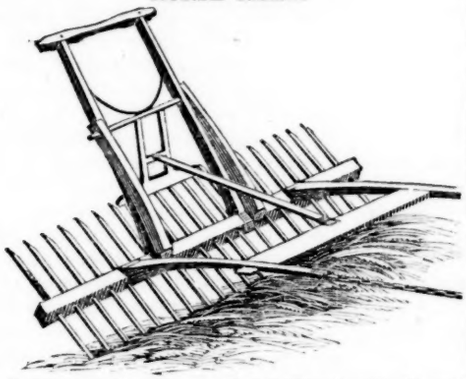
COMMUNICATIONS.

For the New England Farmer.

PIERCE'S IMPROVED PATENT REVOLVING HORSE RAKE.



For sale at the Agricultural Warehouse, 51 and 52 North Market street, the proprietors of this establishment having the right of disposing of these improved rakes, now offer them for sale, and recommend them to the public as deserving high estimation among the improvements of the day. They are in very general use in Pennsylvania and New Jersey, and are found to rank with the most important labor saving machines now in vogue. One man and horse with this implement will rake on an average from 10 to 12 acres per day.

For the New England Farmer.

ON THE CULTURE OF SILK, AND THE MORUS MULTICAULIS, OR NEW CHINESE MULBERRY.

The cultivation of the Mulberry tree, for the purposes of silk, is of high antiquity in China. Its history there extends, to 2700 years before the Christian era. From China its cultivation extended to Persia, and the Isles of the Archipelago; from thence during the reign of the Emperor Justinian, it extended to Greece. Its cultivation commenced in Sicily and Italy in 1540, and from thence, finally, it was introduced to Provence in France.

Yet in France, although they raise so much silk, they still import annually to the amount of 30,000,000 francs of raw silk, or one-third of all they consume, for the supply of their manufactures.

In England, the climate, from its humidity, or other causes, is said to be unsuited to its growth; yet from the year 1821 to 1828, according to a late and authentic work on the Silk Trade, they imported of raw silk, 24,157,568 lbs., worth $120,787,580. Of this amount, $59,881,283, came from Italy alone.

In Tuscany, so fine is their climate, that two successive crops of silk are annually produced; and so extensive is its cultivation throughout Italy, that according to the Count Dandolo, two-thirds of all their exports consist of silk.

Yet in our own country, so highly favored in all respects by nature, its successful introduction is mainly due to individual exertion. But how much soever has been done and still is doing, the importations seem increasing. The imported silks left for annual consumption in the United States, in the year ending 30th September, 1834, amounted to ten millions, with a trifling variation, and from the extreme beauty, added to the great usefulness of this material, the whole quantity consumed must very shortly be double this amount.

Wherever the Mulberry finds a congenial climate and soil, there also the silk worm will flourish. Such a climate and soil, and such a country is ours, throughout its whole extent, from its eastern to its western shores.

The cultivation of the Mulberry, and the raising of silk, may each with advantage be conducted as separate branches of the same department. The avenues of the Mulberry tree, on the plains of Reggio, with the habitations for the insects which are on either side, are the property of wealthy citizens who reside in Reggio; these furnish to another class the leaves, and every necessary requisite, receiving in return two-thirds of the product. Thus, too, in France, the plantations of the Mulberry constitute there, in many places a part of the real estate of the landed proprietors, the leaves being annually sold on the trees.

Of all the various mulberries for silk, the *Morus Multicaulis* or *Chinese Mulberry*, seems that which is most adapted to our wants. It originated in a country famous from antiquity for its silk, and renowned for its industry—a parallel to our own in its climates and divers latitudes—a country, a climate bounded and controlled by an *eastern ocean*. To the qualities which have been elsewhere stated, and to the very important reduction of labor in gathering the leaves, from their extraordinary size, we have still to add, that they appear to be preferred by the insects to all others; at the establishment of Madame Parmentier, they are stated to have left seven other species of the Mulberry to feed on this.

The sudden and extraordinary extension of the silk manufactures, both in France and in England, during the last ten years, has been mainly ascribed to the machine invented in France, by M. Jacquard; and the powerful impulse thus given, has been assigned to the *Jacquard Loom*. This loom is stated to perform all those labors, which had heretofore been exclusively confined to the most skilful hands, with important economy of time and labor in the preliminary steps, and is so decidedly superior to all other looms, for all the curious varieties of figure-silk weaving, that it has superseded them all, both throughout France and England.

Those resources, the millions we now annually expend for silks, the productions of foreign industry, and of foreign policy, draining our country of its treasures—those vast sums should be preserved to our citizens. This industry and resource of wealth, must not be compromised nor bartered, nor sacrificed to rival and particular interests, or to the interests of rival nations. The cultivation of silk being in no wise exclusive, but a great and general interest, alike adapted to every region of our country, from the north to the extreme south; from the Atlantic to our territories which are bounded on the Pacific ocean—it demands that equal share of protection which has been bestowed on cotton, on iron, on tobacco, and on the productions of the sugar cane. But the encouragement of the cultivation of the Mulberry, and of the growth of silk, *in the United States, as a resource of Agriculture* seems not to have formed any part whatever of what is called "The American System."

The enterprise, the fertile invention, the noble efforts of individual exertion, have already accomplished much; but the field is very broad and of vast extent; much yet remains to be done. That industry which still slumbers; that portion, which unawakened is now lost, being alone more than sufficient to accomplish all, if once aroused and rightly directed—more than sufficient to recover again those very considerable sums, the millions so prodigally expended, with interest an hundred fold.

By those unceasing toils and mighty efforts, and matchless labors, for which our people are so distinguished; the millions thus recovered, will not only be their just reward, but will add to the substantial wealth of the nation, and to the glory of the whole Republic.

Of the Morus Multicaulis, or *Many-stalked Mulberry.*

Chinese Mulberry.

Perottet Mulberry.

By these several titles we have distinguished a highly ornamental tree from China—a fruit tree—a new and most valuable species of Mulberry, for the nourishment of silk worms, a tree which is represented as possessing such decided superiority over all others, that it will be speedily substituted for them all, in every region of the globe.

The tree grows vigorous, upright and beautiful; the leaves in a light, friable, rich, and humid soil, are large and cordate; but in a dry and arid soil, they are of less size, elliptical, and without the heart-shaped indentation, their breadth being six inches, and their length eight; but in rich and humid soils, their dimensions are sometimes far greater, extraordinary specimens having sometimes measured more than a foot in breadth, and fifteen inches in length. They are curled or convex on their upper surfaces, of a deep and beautiful shining green.

These are the main qualities, which alone have been deemed sufficient to render this precious plant an invaluable acquisition to any country. While it was yet unknown even to Europe or America to be also a valuable fruit tree till in 1830, the tree bore fruit for the first time, and abundantly, in France. The fruit is long, black, and of sufficiently beautiful appearance; its flavor good, being intermediate between that of the red and that of the black Mulberry.

The introduction of this plant from Asia, is due to M. Perottet, Agricultural Botanist, and traveller of the marine and colonies of France. And according to M. Poiteau, the name of the zealous traveller should in justice be affixed to the precious tree which has given him celebrity, and which will contribute so much to the prosperity of French industry. It was brought by him to France [we believe in 1824] in that vast collection and variety of productions which he had during thirty-four months, procured in the seas of Asia, or gathered on the coast, or in the land of Cayenne.

The *Morus Multicaulis* appears to have originated in the elevated regions of China, from whence it has been disseminated throughout the low plains near the sea-shore. Among the number of Mulberries cultivated by the Chinese, for the nourishment of silk worms, the *Morus Multicaulis* appears to be the most esteemed of all, not only for the facility with which it is propagated and grown, but still more for the essentially nutritive qualities which the leaves possess. Chinese inhabitants assured M. Perottet, that to this tree the disciples of Confucius are indebted for the prosperity and solidity of their empire.

The first discovery of this tree by M. Perottet, took place at Manilla, the capital of the Philippine Isles. In descending the river which traverses that city, and on its banks, M. Perottet discovered the garden of a Chinese Inhabitant, where for the first time he saw the *Morus Multicaulis* which was there found growing with a vast variety of other precious plants, which had here been congregated from India, from Ceylon, from Sumatra, and from other sources, and from China.

In August, it was brought by M. Perottet from Manilla, and first introduced into the Isle of Bourbon; from thence into Cayenne and France. At a later period, it was sent from Cayenne to Martinique, and from France to Guadaloupe; also to Senegal. The numerous plants which are already disseminated in the divers climates of Africa, America and Europe, have all been produced by the two individual plants brought by M. Perottet from Manilla.

Besides what has been already stated, the characteristics which distinguish this Mulberry from others are those which result, 1st. From the remarkable property which the roots possess of throwing up numerous flexible stalks; the facility with which it is propagated from layers, or even from cuttings. 2d. The great length which these stalks acquire in a short space of time. 3d. From the remarkable developement which the thin, soft and tender leaves speedily acquire, and the promptitude with which they are renewed.

This Mulberry should be cultivated in hedge rows, and never suffered to rise higher than seven or eight feet. M. Perottet has assured us, that but a few years are sufficient to raise considerable fields of them in full vigor, sufficient to support a immense quantity of silk worms; and regular plantations can without difficulty, be formed by planting the shrubs at a distance of from six to eight feet asunder, a space sufficient for the extension of the branches; sufficient also for cultivation, and to facilitate the gathering of the leaves. This last operation he further informs us, is so much facilitated by the flexibility of the stalks, and the superior size of the leaf, that a child is sufficient for gathering the food of a large establishment of silk worms.

The *Morus Multicaulis* according to M. Perottet, will be readily acclimated, inasmuch as it originated in a climate analogous to that of France. It appeared neither to suffer from the excessive cold of the northern, or the intense heat of the intertropical regions; as the plant left in the government gardens of Cayenne had acquired during eight months, a truly remarkable developement, being clothed at that time with leaves of extraordinary size. Those also which were cultivated in Senegal, although planted in an arid soil, and situated beneath a dry and scorching sky, exhibited an appearance sufficiently satisfactory; yet in all respects they had acquired less developement than those which were planted in the humid climate of Guiana. A humid, rather than a dry soil seems best to suit this plant.

This Mulberry braves the most rigorous winters of France, not having suffered in the least even during the severe winter of 1829-30. I have taken particular pains to ascertain how they have fared in the extreme north of that country, and have very lately been informed by letter from M. Eyries, a gentleman of Havre, that they have supported well during ten years, the most rigorous winters of the extreme north of France. He has cultivated them to considerable extent, from their first introduction to that country.

And we are lately assured that, by the information received from all quarters, this Mulberry is destined (in France,) to replace the common White Mulberry every where, for the nourishment of silk worms, and that the silk which the worms form from the food afforded by this plant, is of the first quality. And from the experiments of Dr. Deslongchamps of Paris, it appears to have been ascertained, that the cocoons produced by the worms fed exclusively on this plant, are even rather heavier than other cocoons.

In our own country there may yet perhaps be some, who would advance the question whether this most desirable plant will endure the winters of northern climates. At New York, on Long Island, this Mulberry has sustained unprotected, the rigors of seven winters, as I am informed, and the extraordinary winter of 1831-2 which destroyed so many trees hitherto deemed hardy even to the root.

I have indeed sanguine expectations, that the *Morus Multicaulis* may prove as hardy in our climate, as the Peach tree, which was originally from Persia—or the cherry tree, when once their roots have become established. Its vegetation being rapid and luxuriant, and prolonged to a later period in autumn than that of most other trees, or till the tender and yet vegetating tips of the twigs, are checked by the frost; these extreme ends will generally be lost, as they always are of the common White Mulberry, when young.

In our climate there are many kinds of trees, which need protection during the first winter, though they may never require any afterwards. Such are the young seedling plants of but a single summer's growth, of the *Cherry*, *Plum*, *Pear*, the *Quince*, and the *White Mulberry*, &c. all which require to be carefully, compactly placed in cellars during winter, their roots buried in soil; or occasionally for protection, may be laid in out of doors compactly and in a slanting position, their bodies being in part protected by soil. For all these species are liable to be killed occasionally to the root by the first winter, or to be utterly destroyed by being thrown out by frost, yet in the second winter it is far otherwise; their roots becoming strong and firmly established, the well ripened wood of the second year, and the wood of two years growth, becomes indestructible by any but very extraordinary winters. I have taken the same precautionary measures with the young and tender plants of this Mulberry so valuable—the layers of but a single summer's growth, which are separated in autumn.

I will offer some further evidence of the hardihood of this plant, in addition to what I have stated in a former number, (see N. E. Farmer of the 15th of January, last.) But the experiments which are now in progress elsewhere, as well as here, on a more extensive scale will, as I trust, soon enable us to put this subject more fully at rest.

Very late in the spring of 1833, more than an hundred young trees of the Morus Multicaulis, were set out on the Place of S. V. S. Wilder, Esq. in Bolton, Worcester County. The soil springy, the exposition cold, and sloping to the north; Mr. Joseph Breck, a distinguished botanist of Lancaster, the town adjoining, having especial charge of these plants, has lately very critically examined them. Thus unfavorably situated, and unprotected, they have borne the last winter without injury, except only the very tips of the twigs. Mr. Breck is persuaded that they are even hardier than the common White Mulberry, since some hundred of the latter, which stood very near, were killed half way down to the ground by this same winter.

I have just received a letter of the 30th ult. from John Gordon, Esq. a public spirited gentleman, who has during the last year, made trial of the *Morus Multicaulis* at Hampstead, N. H. These plants grew well during the summer, and have borne well the winter, and are now luxuriantly vegetating to within two or three inches of the tips. Mr. Gordon is now making trial of the White Mulberry, and the *Morus Multicaulis* in the city of Portland, in exposed situations; also of the silk worm, confident that they will all succeed well, and that the culture of silk will answer well in that climate.

Although the Mulberry flourishes most luxuriantly in a moist and rich soil, and protected situation, yet as your intelligent correspondent, R. of *Hingham* has before observed, (see N. E. Farmer, page 211 of the 15th of January last,) the leaves in such soils and situations, are more crude, and not of a quality so nourishing. Besides, the growth of the tree in such situations, being much more rapid, the wood is consequently more tender and more liable in northern climates to be killed by winter; and authors seem to be agreed, that the proper soils for the Mulberry tree, are dry sandy, or stoney; and trees on dry, light soils, and situated on the open plains, and on hills the most exposed to cold winds, will generally be found to suffer least of all from the effect of winter. Such appears to have been the case in 1831-2; the ravages of that destructive winter seem to have been generally confined to trees growing in particular situations and soils. Even delicate trees and plants the natives of more southern climes, become more hardy, and capable of supporting the northern winters by being planted on the north side of buildings and fences, and in their shade. The exposure to the most intense degree of cold, in such situations, is more than compensated by the protection which is thus afforded to the plants during winter, from the pernicious and far more destructive rays of the sun.

The prediction, in 1830, of the late Dr. Felix Pascalis, that, "after the discovery of *this plant*, a doubt no longer exists, that two crops of silk may be produced in a single season;"—this prediction has since been fulfilled—its truth confirmed by experiment—the soil and cultivation, the habitations for the successive generations of insects being yet the same; all thus converted to a double use, and the whole production doubled. It must be obvious, that the actual profit thus augmented must be manifold.

The honor of the discovery of this plant, its history and uses, belongs to M Perottet.

that I have here stated has been before brought to light by the indefatigable researches of Gen. Dearborn. On this, as on other subjects, much is due to his exertion. WILLIAM KENRICK.

Newton, June 7th, 1834.

For the New England Farmer.

PRESERVING FRUIT TREES FROM MICE.

MR. FESSENDEN, In your paper No. 45 of the present volume is an article on the "injury to fruit trees from mice;" written by *a* or taken from *the* Northern Farmer. The writer says he "has within a few years lost trees to the value of $500." He desires to be informed if there is "no means of destroying this mischievous race." Of the means of destroying mice, except on a small scale I know nothing, but to preserve trees from their destruction is easy, and costs nothing; I say nothing, because there is nothing to be done, but what should be done, were there not a mouse in creation. Viz: while in the nursery, keep the ground clear of weeds, grass, and rubbish of every kind, by ploughing and hoeing frequently; when planted out never let a weed or spear of grass grow within three feet of them; prevent this by digging about them Spring, Summer, and Autumn, leaving the earth about them smooth as possible, particularly in Autumn. I have pursued this course with many trees both in the nursery, and planted out, with perfect success, but when I have neglected my trees (as I have in one or two cases) and have not kept the ground clear of grass, &c. the mice have destroyed some of them.

Yours with respect, NATH'L S. BENNETT.

Framingham, June 6th, 1834.

For the New England Farmer.

WHITE PINE.

MR. FESSENDEN, This is a request that some of your correspondents or yourself would communicate the best method and time for transplanting the White Pine (*Pinus Strobus*) also directions for forming a grove of these, and what trees flourish in their company, and produce a proper contrast? It is well known that fifty or sixty years since, this tree was scarcely to be found in districts where now it fills the forest. This is the case in our country, where some of the older inhabitants can recollect its extreme rarity. Though it is so forward under the hand of nature, it is nevertheless very coy of the hand of man, at least when the ordinary method of cultivation, transplanting, is used.

The books tell much concerning the proper way of making a nursery by sowing the seed, but are silent as to the transplanting, except perhaps hinting that it is not the best method of culture; but this is not true, and the tree is transplanted in this country at least with success, as may be observed in Brookline and Cambridge. The time for removing evergreens differs somewhat from that proper for deciduous trees. The Pinus Cembra, of which there is a notice in the N. E. Farmer, vol. x, p. 369, deserves the consideration of agriculturists, and it might be acclimated, and the soil being probably favorable it would become an important acquisition.

Duxbury, June 7th.

From the Maine Farmer.

A STRANGE THING UNDER THE SUN.

Two brothers, blacksmiths, Joshua and Thomas, both lived once in the same town. A farmer had been to Thomas to get his ploughshare repaired, but when he tried it, to make it plough he could not. He then carried it to Joshua. Joshua took it up and looked at it gravely for some time. At length he fixes it in his tongs and lays it on the anvil and says, Here John, take that sledge and strike a blow there. It was done.—Joshua looked again. It was not quite right. He placed it again on the anvil, and told John to strike another blow, a little lighter; this was done and master Joshua looked again. It did not quite suit him, and John was ordered to strike again, but very lightly. He did so. Master looked and was satisfied. "The plough will work now" said he "but I think it is strange that Brother Thomas does not know any better."

There is a moral to this story. It teaches us to look well to little matters, and not let any thing pass our hands half finished, when a little care and judgment properly exercised would render it complete.

I have seen a farmer make his posts for bars with the holes so far apart that small sheep, goats, geese, &c. could pass through easily, when another hole or two and bars sufficient to fill all the holes, would stop all such creatures, and save a great deal labor and vexation.

I have seen a farmer make quite a decent gate, but he could not afford the time or the expense to hang it. It would do for the present. He sets it in its place with a stick against it; but it is too much to take away the stick and replace it. Of course it is soon left to stand alone, slanted a little of course. The geese and pigs, &c. with their scrutinizing eyes, soon find the vacant spaces, and walk into the garden without ceremony. The sequel I need not tell. I have seen others—yes I have done it myself—make hedge and log fences, year after year, where rocks were plenty, because the time could not well be afforded to make stone fences. The result frequently is, the logs get rotten, will settle or fall down in places, or the cattle break through weak places and occasion a deal of trouble. And not only this, but the fires every two or three years will make a general sweep, and then two or three weeks must be spent just to get up something that will do for the present. For my own part I have most heartily repented of this practice, and am determined to forsake it as fast as I can. Is it not strange that people will do so?

I have seen farmers running about all winter, speculating, or something else to little purpose—no preparation made for fence, by getting out stuff. Spring comes and finds the fences down and nothing of substance to repair them with. The poor people are in difficulty, and I sometimes think it strange they will do so.

Another thing I have thought strange—it is that any person who has no fence that he can depend upon, should keep a herd of colts and young horses, of all cattle the most unruly to torment himself and neighbors. I have sometimes seen a herd of these animals come prancing over our mountains in high glee, jumping over fences, running through cornfields, grainfields, &c. without ceremony; I protest against this, it is a public nuisance.

But perhaps you will say fine the owners; I will tell you another story by way of answer.

A certain Grand Juryman while attending court, wished to speak with the Judge after the court was adjourned. He was shewn into a chamber where the honorable Judge,—lawyers, &c. were engaged playing cards. A little surprised to see a Grand Juryman enter so unexpectedly, one says, I suppose you will present us for gambling? My oath said he, requires me to do so, but where the whole court are criminals, to whom shall I present you? J. H. J.

Peru, May 11, 1834.

SAFE METHOD OF EXTERMINATING RATS.

LET those who wish to poison rats, instead of applying to the chemist, intimately mix a pound of plaster of Paris (in its unslacked state) with about double the quantity of oatmeal. Let them place this within the reach of the rats; they will eat it greedily, and without being deterred by any bad taste. Through the humidity contained in their stomachs, the plaster of Paris will "set," and form an indigestible hard mass, which will, in fact, present, upon dissection, a good cast of the rat's stomach, and speedily produce a kind of Aldermanic death, i. e. by irremediable indigestion.

MASS. HORTICULTURAL SOCIETY.

Horticultural Hall, June 14th.

EXHIBITION OF FRUITS AND VEGETABLES.

GRAPES. A fine basket of White Chasselas grapes were exhibited by *S. G. Perkins, Esq.* ripe the 31st of May.

From the grapery of *Jacob Tidd, Esq.* very handsome clusters of the White Chasselas and White Frontignac or Muscat.

FIGS. A large and beautiful specimen of ripe figs, of excellent quality, from the *Hon. John Lowell.*

GREEN PEAS for premium by *Col. Marshall M. Wilder* of Dorchester. WILLIAM KENRICK.

An adjourned meeting of the Mass. Horticultural Society was held on Saturday, June 14th.

The Committee chosen at the last meeting, not being ready to report, the meeting was adjourned to Saturday, June 21st, at eleven o'clock.

CHA'S. M. HOVEY, *Secretary pro tem.*

FLOWERS EXHIBITED.

Mr. John A. Kenrick, Newton—Roses, Honeysuckles, Pæonies, Corchorus, Scotch broom, Spireas, &c.

Mr. Thomas Mason, Charlestown Vineyard—Ranuncus', Anemonies, Roses, Larkspurs, Austrian and French Yellow Roses, Fraxinella, Papaver bracteata, and variety of other flowers, with a splendid specimen of Cactus speciosissima.

Messrs. Hovey & Co. Cambridge—Roses, Pæonies, Lilies, Geraniums, Spiræ, Sophora, Viburnum, Phlox, Pinks, Roses, &c.

Mr. S. Walker, Roxbury—Double white rocket Iris cælestina, &c.

Messrs. Winship—various kinds of Flowers; among which were the double flowering Japan clematis, and the Cymbredium dependens, or air plant, in fine bloom.

The members of the Society who were present, with the Committee, were highly gratified with the elegant specimen of Nerium splendens, Coffea arabica finely fruited, and the full grown and delicious flavored Figs, equalling in the opinion of gentlemen present if not surpassing most of those grown in a more genial climate, by *Mr. Leonard*, Gardener to the Hon. Jno. Lowell. Also, with the Dahlia Flowers, presented by *R. Rogerson, Esq.*

By order of the Committee,

JONA. WINSHIP, *Chairman.*

From the Southern Agriculturist.

PREPARATION OF BEET SUGAR.

Paris, December, 1833.

The beets are collected when ripe, or a little before that time, and immediately brought to the cleaning machine. This consists of a cylinder composed of ribs of wood, and revolving in a trough filled with water; into this cylinder the beets with their tops, as torn from the ground are put, and thoroughly washed; one objection to cutting off the tops before washing, is that a quantity of saccharine matter escapes. They are then brought to the rasping machine, which breaks down their cellules and reduces them to fine pulp. In some places the beets are brought dried to the manufactory. They should then be cut in transverse slices, and dried in a stove heated somewhat below the temperature of boiling water, that being sufficient to destroy the principle of organic life in the beet, and which militates against the action of affinity present in all inorganic substances. The temperature should be below 112 deg. Fahr. as it appears that at that point the coloring matter is formed readily, either from a reaction taking place between the principles contained in the beet, or during the maceration, from the water used in that process. For the same reasons the time and degree of heat used in maceration, should not exceed that requisite to extract the saccharine matter.

The quantity of fibrous matter contained in the beet is so small, in proportion to the liquid, and the cellules containing the latter, are so minute, that it requires a most complete rasping to prepare them for the press. The presses most esteemed are those which press but a small quantity at a time, and that with expedition; as by these means most juice is obtained from the pulp. They are of two kinds, the screw and the hydraulic; but the limits of this paper will not permit me to give you a description of either; suffice it to say, that the pulp, having been placed in strong closely woven cloth, is submitted to these presses, and the juice flows immediately into cauldrons (coppers), in which it undergoes the process of defecation. From good beets Dombasle obtains 85 per cent. of juice; from poor and indifferent 60 per cent. is usually got. From boiling them and then cutting them in slices, over which a current of water flows successively, he has obtained 90 per cent.; 60 lbs. of juice of good white beets yield from 4½ lbs. to 5 lbs. of raw sugar; those grown in rich wet soils give less.

The juice thus, or otherwise obtained, is subject to a spontaneous alteration, which is important to know. If exposed to the atmosphere, it gradually acquires a stringy and oil-like consistence, which, increasing in proportion to the evaporation of the liquid, at last resembles that of the white of an egg. These changes take place in less than twenty four hours, when the temperature is at 20 deg. to 24 deg. *centigrades*. The mass which before this change never showed any free acid, now contains both *acetic* and *nanceique* acids, (the latter described by Braconnot in 1813—*Annales de Chimie.*) It is supposed that this alteration takes place in the beet itself when kept in too large heaps, and thus subjected to too high a temperature. It is the formation of this viscous matter which presents a great obstacle to the crystallization of sugar, and which glueing together the crystals prevents the molasses escaping. To guard against this alteration of the juice, the utensils used in keeping and in stirring the beet juice should be kept scrupulously clean, and the greatest celerity possible should be used in all the necessary operations, from the grinding to the defecation. The instruments of wood must be frequently washed with the greatest care, and when laid aside, should be covered with milk of lime, and which should not be removed before their immediate use is required. One of the best means to prevent this alteration in the beet juice, is to employ small coppers, capable of containing about two hectolitres (two hundred English quarts) each; five of this size are capable to serve for the fabrication of 30,000 lbs. of beet juice per diem. Although the heat may be applied to a large copper, long before it is filled from the juice flowing from the presses, too much time passes before it is full, and arises at the temperature of 70 deg. or 80 deg. centigrades, at which temperature the juice may be considered safe from the alteration above mentioned.

I will not dwell on the *modus operandi* of the substances used in the defecation of the juice, but proceed, at once, to state the process most generally adopted. The quantity of lime varies from 2½ to 3½ "*grammes*" for each "*litre*" (quart) of the juice. As a general rule, the quantity must be increased in proportion to the quantity of saccharine matter contained in the juice. The purest lime should be used, and in its greatest degree of causticity, and it should be reduced into a clear pap by means of a little water before put into the coppers. It is best to put it in the copper as soon as a few bucketfuls of juice has flowed in, it acting in preventing the decomposition already so much insisted on, which is apt to take place to a more or less great degree before the juice arrives at the requisite degree of temperature.

Two methods are now used to complete the operation. One consists in preventing the boiling of the juice, by extinguishing the fire before it arrives at 100 deg. temperature, and then being left at rest for half an hour, when the scum rises to the surface, the liquid is afterwards drawn off by a cock placed near the bottom of the copper.

The method preferred by Dombasle, is to continue the fire under the copper, and, when near the boiling point, watch the *first bubble* which swells under the scum; immediately take a ladleful of the juice from the spot where it arises, and pour on the spot a quart of cold juice which checks the action immediately; the same operations must be repeated as often as a bubble appears (which must never be permitted to burst and spread over the scum), until, by examining the liquor taken up in the ladle, the defecation is found complete, when the fire must be extinguished, and the liquor allowed to rest for a half hour before drawn off; always guarding the bubbles, which may continue to rise, from bursting by the means already indicated. By this method the operator is rendered complete master of the work, and in those cases in which sufficient lime has not been used, he can have time to add more when he finds that complete defecation will not take place. For this purpose he has only to dilute a quantity of the milk of lime in the cold juice, which he pours into the copper. Even the introduction of the cold liquid alone sometimes produces a remarkable effect; a single quart changing the state of the liquor and causing the separation of the feces in large flakes. The complete defecation is known by the liquid in the ladle being of a fine white wine color, and perfectly transparent, and that the feces are divided into large flakes which settle quickly to the bottom of the ladle. The liquor having been drawn off, the scum and residue are then placed in cloths extended over a table composed of wooden ribs, and having an elevated border; below this is placed an inclined plane which conveys the juice into a reservoir containing the rest of the clarified juice. The cloths should be of cotton in preference to wool, which the lime, still retained by the feces, is apt to rot.

Now, place the juice thus defecated into coppers destined to concentrate it. The form of the different coppers is not an unimportant object. Those used in defecation should be deep, viz. the depth half their diameter; and when bullock's blood is employed in defecation, they should be as deep as wide. The coppers for concentration should be as wide as one foot in depth to four or five feet in diameter, those for cooking differ from these last only in having their bottoms three "*lignes*" in thickness at least. The combustible matter is pit-coal or wood, and the furnaces must be adapted to each. Animal charcoal is used in the concentration; that made from bones and not horns is employed. Its action is not confined to removing the color, but it acts also in an inexplicable manner, enabling the syrup to support a higher degree of temperature; and without it, it is almost impossible to cook the syrup on an open fire, which process will now be described.

Place the clarified juice into the concentrating coppers, and saturate the excess of lime, if it exist, by diluted sulphuric acid; it should not be rendered completely neuter, only so far that the purple (tournesol) paper changes slowly blue. Then pour in the animal charcoal in the proportion of 1¼ lbs. to a "*quintal*" (100 lbs. weight) of the liquor. Boil and continue the concentration until the hot liquor supports *(porte)* 20 deg. *a l'areometer de Baume.* It is then withdrawn and left to deposit in deep wooden vessels and kept in a cool place, where it precipitates during cooling, a great quantity of calcareous salts, among which the malates are most abundant. When the syrup is perfectly clear, (at the end of twenty-four hours usually) it may be submitted to the action of cooking *(cuite.)*

Being placed in the cooking coppers, carry it, by a brisk fire to 32 deg. of *areometre* of *Baume.* Extinguish the fire, and throw in animal charcoal, in the proportion of ¾lb. to a quintal of the juice which has furnished the syrup, viz. half the quantity employed the first time. Let the syrup now cool to about 75 deg. stirring it occasionally to mix the charcoal well with it; then carry it into the clarifying coppers, and submit it to the usual clarification of bullock's blood; it is then drawn off clear and the cooking proceeded with. The scum, &c. is placed on woollen cloths to drip. The proceeding is considered the most difficult part of the process. The cooking coppers now receive it, and the point of concentration is told by touching the ladle dipt in the syrup and drawing out the thread. The thumb being below, when the finger is drawn from it, the thread should break at the thumb. The thermometers used for this purpose are rejected by M. Dombasle, as not to be relied on. When of the proper consistency, it is poured out into the "*rafraichissoir*," where it crystallizes.

The method recommended by Payer, is to evaporate the *defecated* juice to twelve degrees of Beaume, without adding any animal charcoal; then draw off all the liquid into a filter filled with animal charcoal; evaporate *rapidly* the filtered liquid to twenty-five degrees of Beaume, and filter

again through a filter of Dumont with fresh animal charcoal. The syrup is thus rendered ready for the cooking, it yields more crystals of a more beautiful hue, and the suppression of the bullock's blood no longer leaves a portion soluble and alterable. Payer recommends also the copper on a pivot for *cooking* the clarified juice, it (cooking) being in this accomplished in five or eight minutes, while the other method requires thirty or thirty-eight minutes; moreover, the alteration is six times less in syrup cooked in this than in the usual stationary coppers. The fire being brisk the ebullition is commenced in one minute in every part of the copper; frequently the syrup is too viscous and rises in a thick froth, and incompletely wetting the bottom of the boiler, hazards the burning of the sugar; to check this instantaneously, throw in a small quantity of fresh butter, four or five *grammes*, which Dombasle recommends to have been previously melted, as that operation prevents the sugar receiving any flavor from it; as soon as the syrup, by means of the touch, is found cooked, draw the cord, and thus canting the copper, its contents pour out at once; open the stop cock and proceed with the process; seven or eight products being thus united in the rafraichissoir, it is rolled into the rooms containing the forms, for much of the French beet sugar (raw) is in loaf form.

I have thus, my dear sir, given all the information I possess relative to the manufacture of beet sugar from the expression of the juice to the crystallization. I have drawn freely from the latest and most esteemed works, but as yet have not been in a refinery. I thank you for the hint, how I may render my stay here serviceable to my native city; and shall use my endeavors to gain admittance into a refinery before my return.

I am, with great regard, dear sir, yours, very respectfully, F. WURDEMANN.

From Goodsell's Farmer.

EXPLANATION OF AGRICULTURAL TERMS.

(Continued from No. 46 of this Vol. N. E. Far.)

35. *Carbonic Acid*—is a combination of carbon and oxygen, in the proportions of eighteen parts carbon to eighty-two parts oxygen. The sources of this acid are immense: It exists in the atmosphere, it is found in abundance in many mineral waters, as at Ballston and Saratoga, in the State of New York; it is produced by the combustion of wood and charcoal; by the fermentation of liquors, and by the decomposition or putrefaction of vegetable substances; but the largest store of it is that enormous quantity solified or rendered solid in all immense beds of chalk and limestone with which every part of the globe abounds. Of limestone, 45 parts in every 100 are computed to be carbonic acid. As before observed, when uncombined with any other substance, it always exists in the state of gas. It is heavier than atmospheric air. If this gas be poured from a wide mouthed jar upon a lighted candle, it will be as effectually extinguished as by water.

36. *Effervescence*—is a sudden disengagement of gas taking place within a liquid, and separating that with a hissing noise. We have an example of this, as before observed, by dropping a little pearlash into cider. The carbonic acid is disengaged and rises in the form of gas, producing much foam, with a hissing noise.

37. *Chemical Affinity*—is a term used to signify the attraction or tendency there is between the particles of certain substances *of different natures* to unite, thereby forming a *third* substance possessing properties altogether different from those of either of the two substances of which it is composed. Thus, potash and oil have a tendency to unite, thereby forming *soap*, which is a *third* substance very different either from the oil or the potash of which it is composed. Those substances which are *capable* of uniting in this manner, are said to have an *affinity* for each other, as oil and potash; but oil will not unite with water, and therefore those substances which do not form a chemical union, are said to have no *affinity*.

38. *The primitive Earths*—are four, viz. clay, sand, lime, and magnesia. These are the only earths which enter into the composition of soil; they also enter in very minute portions into the organization of plants. Sand and clay are by far the most abundant; lime is required but in small proportion: every soil, however, is defective without it. Magnesia is found but in few soils; its place is well supplied by lime; its entire absence, therefore, is not considered any defect.

39. *Clay*—in agricultural publications, is called alumina, alumine, aluminous, or argillaceous earth. The term *clay* should not be given to a soil, which contains less than one-sixth part of aluminous earth.

40. *Sand*—is called silex, silica, silicious earth, or earth of flints. "The epithet sandy is not properly applied to any soil, that does not contain at least seven-eight parts of sand, and sand soils are to be distinguished into *silicious sandy*, or flinty sand, and *calcareous sandy*, or chalky sand."

41. *Lime* as it exists in the soil, is commonly called calcareous earth. "The word *calcareous* is not properly applied to any soil, unless a specimen of it is found strongly to effervesce with acids; or unless water having a channel in the soil affords a white earthy deposite when boiled." "Each of these earths answer a determinate and specific purpose in the economy and growth of plants; and the perfection of soil lies in a mixture of the whole."

42. *Basis of the soil*—By this term is understood the primitive earths which enter into its composition.

43. *Vegetable Matter*—all vegetable substances in a decaying or rotten state.

44. *Animal Matter*—all animal substances in a putrifying state.

45. *Organic Matter*—is a term applied both to animal and vegetable substances in a putrifying state.

46. *Vegetable Mould*—the earthly remains of vegetable substances which have either grown and decayed on the soil, or have been conveyed thither in the progress of cultivation.

47. *Loam*—is a combination of vegetable mould with the primitive earths.

48. *Peat*—is a substance dug out of swamps; it is produced from the decay of vegetables; is of a fibrous texture, and may be cut with a spade. Peat is frequently used for fuel; it is of no use as a manure until it shall be brought into a state of fermentation, or putridity, which may be done by mixing it with other manures. Running water also extracts its antiseptic qualities, and leaves it ready to pass into a state of decomposition.

49. *Marle*—is a substance consisting of lime with a small portion of clay, and sometimes of peat, with a mixture of marine and animal remains. It is found extensively in some situations, at different depths under ground, and is distinguished into shell, clay, and stone marle. It is useful as a manure.

50. *Putrescent Manures*—are all animal and vegetable substances in a decaying state.

51. *Excrementitious Matter*—is the manure from animals.

52. *Long Manure*—is green barnyard manure before it is rotted.

53. *Short Manure*—is barnyard manure made fine by rotting, so as to be cut easily with a spade.

54. *Fossil Manures*—are lime, marle, plaster of Paris, and other substances which operate on the mechanical constitution of the soil, but do not afford direct nourishment to plants.

55. *Compost Manure*—is that which is formed by the mixture of various substances, as turf, pond mud, weeds, ashes, lime, &c. with stable or yard manure, so as to constitute one uniform mass or substance, fit for the improvement of the soil.

56. *Irrigation*—is the turning of water from its natural channels, and carrying it by ditches over grass lands, so as to render them more highly productive.

57. *Tilth*—is the condition in which ground is left after tilling. When it is well pulverized by the plough and harrow, and made light to a sufficient depth, it is said to be in good tilth.

58. *Stumming Casks*—is burning within them matches covered with sulphur. A strip of cloth, ten or twelve inches long, and from one to two inches wide, smeared with melted sulphur, and lighted, is let down into the cask, and suspended from the bung. Some have a long, tapering bung, that may fit any cask, with a crooked wire in the small end, from which to suspend the match.

59. *Must*—is the new liquor pressed from apples or grapes, before it has worked or fermented.

60. *Lees*—is a term used to signify the gross sediment or settlings found at the bottom of casks containing fermented liquors.

61. *To rack Cider or Wine*—is to draw them from off their lees or sediment, into clean casks.

ROOKS.

FROM a notice of some length, on the usefulness of the rook, which has been published in the *Magazine of Natural History*, vol. vi, p. 142, 143.

"In the neighborhood of my native place, in the county of York, is a rookery belonging to Wm. Vavasour, Esq. of Weston in Wharfdale, in which it is estimated that there are 10,000 rooks, that 1 lb. of food a week is a very moderate allowance for each bird, and that nine-tenths of their food consists of worms, insects and their larvæ; for, although they do considerable damage to the fields for a few weeks in seedtime, and a few weeks in harvest, particularly in backward seasons, yet a very large proportion of their food, even at these seasons consists of insects and worms, which (if we except a few acorns and walnuts in autumn) compose at all other times, the whole of their subsistence. Here, then if my data be correct, there is the enormous quantity of 468,000 lbs. or 209 tons of worms, insects, and their larvæ, destroyed by the rooks of a single rookery."

REPELLING OF INSECTS.

TAKING the earth away from the roots of trees, and returning back earth mixed with a small quantity of sulphur, will keep insects from ascending the trees. Other repellants of insects may answer the purpose for one Spring—such as quick-lime, fine salt, old urine, strong soap-suds, a strong decoction of tobacco, onions, &c.—*Farm. Assist.*

NEW ENGLAND FARMER.

BOSTON, WEDNESDAY EVENING, JUNE 18, 1834.

HEALTH AND CLEANLINESS.

Farmer's Work. Be so good as to see that every deposit of unhealthy and contagious matter in, upon and about your premises is removed, or so disposed of as to become food for your plants instead of the cause of disease to yourself or family. Life without health is scarcely to be desired. Indeed, the valetudinarian rather lingers than lives—his existence is a burthen to himself, and an annoyance to his friends. The chief requisites for health are exercise, tranquility of mind, *good air*, wholesome diet, good water and temperance in all things. If the forehanded farmer is not provided with all these, it is usually his own fault. Some drones, however, who undertake to *live* by farming, but are most likely to *die* by indolence, carelessness and inattention to their own important interests, contrive to provide for themselves and families an atmosphere, which would "*all but*" poison a crow or a toad, much more a human being:

> "Thus, as the ancient poets learn us,
> The crows, which flew o'er lake Avernus,
> Were so bestenched in one half minute
> They giddy grew and tumbled in it."

If it is indelicate and unwholesome to take into the stomach water or food, poisoned with putrescence, what is it to take into the lungs the gases generated by putrefaction? Yet some farmers' barn yards, cellars, hog-pens, back houses, &c. are suffered to remain, during the summer months in such a state that, if they do not generate cholera or typhus fever, in their worst forms, which we fear is too frequently the case, they at least cause a degree of languor and debility, which embitters existence, and in a great measure disqualifies for any of the useful purposes of life.

> "Ah! what avail the largest gifts of Heaven,
> When drooping health and spirits go amiss,
> How tasteless then whatever can be given,
> Health is the vital principle of bliss."

The unhealthiness of the exhalations to which we allude is not the only argument against suffering them to go at large to poison as well as to "manure the atmosphere." It is a fact that the vapor or gases which emanate from decomposing animal and vegetable substances, which are so injurious to health in animals, are food for plants. The substances which offend the senses and injure the constitution of the farmer and his family, if arrested and properly appropriated by the hand of skilful industry, "may be so modified in the great laboratory of nature as to greet us in the fragrance of the flower, regale us in the plum or nectarine, or furnish the stamina of life in substantial viands from the garden, the field, and the stall of the cultivator."

But how is the desirable object of converting poison for animals into food for vegetables to be effected? We cannot better answer this important inquiry than by quoting a passage from "*Letters of Agricola*," attributed to John Young, Esq. of Nova Scotia:

"Earth is a powerful absorber of all the gases, which arise from putrefaction. The earth possesses not only the property of retaining the putrid steams, which are formed from the dung of decomposing bodies within itself, but also of attracting the effluvia when floating in the air. The salubrity of a country depends on the latter quality; as the practice of burying the dung in the earth is founded on the former. The stench proceeding from the dissolution of organized matter never rises through the ground to assail the nostrils, although it is sufficiently offensive from bodies corrupting in air and water. A strongly dunged field, after being ploughed, sown and harrowed, sends forth a healthful and refreshing smell—a proof that all the putrid vapors, which otherwise would annoy us, are absorbed and retained for the nutrition of the crop. It is on this account that the poorest earth can be enriched to a very high degree by mere exposure to the gases of putrefaction. Put a layer of common soil along the top of a fermenting dunghill, from 12 to 13 inches thick, and allow it to remain there while the process is carrying on with activity, and afterwards separate it carefully from the heap, and it will have been impregnated with the most fertilizing virtues. The composts, which of late have attracted such universal attention, and occupied so large a space in all agricultural publications, originated in the discovery of this absorbing power of the earth, and in the application of it to the most beneficial purposes. A skilful agriculturist would no more think of allowing a violent fermentation to be going on in his dunghill, unmixed with earth and other matter to fix and secure the gaseous elements than the distiller would suffer his apparatus to be set at work, without surmounting his still with the worm to cool and condense the rarified spirit, which ascends by evaporation. In both, the most precious matter is that which assumes the æriform state; and to behold it escaping with unconcerned indifference, is a demonstration of the most profound ignorance."

Rye, as long as a liberty pole. A bunch of rye, grown the present season by Mr. ISAAC STONE of Waltham, is left in the N. E. Farmer Office, which contains stalks, or culms 7 feet 4 inches in length.

ITEMS OF INTELLIGENCE.

Depopulated Village. Extract of a letter from a traveller, dated at St. Louis.

A few miles below Alton, on the Mississippi, I passed a deserted village, the whole population of which had been destroyed by the "Milk sickness." [A fatal spasmodic disease, peculiar to the Valley of the Mississippi. It first attacks the cattle, and then those who eat beef or drink milk.] The hamlet consisted of a couple of mills, and a number of frame houses, not one of which was now tenanted; but the dried weeds of last year choked the threshold of the latter, and the raceways of the mills were cumbered up with floating timber, while the green slime of two summers hung heavy upon their motionless wheels. Not an object but ourselves moved through the silent town; and the very crows themselves seemed to make a circuit around the fatal place when they came in view of the thickly sown burial ground on the skirts of the deserted village.

Saffron. Some of the Hatfield farmers have begun to cultivate this medical and coloring plant in the field; six or seven acres have been planted this season. It requires a good deal of labor, especially in gathering the flowers. A farmer who has cultivated it a few years past, thinks that after the flowering season commences the gathering of the flowrets from an acre of saffron will employ five girls for a month. The price of Saffron was high the last year; some sold in New York at $1,50 per pound. It may not bring half that sum this year. A square rod, it is said, will yield a pound or more.

Saffron has been extensively cultivated in some counties of England for centuries, but the English Saffron is a different plant from ours; it does not belong to the same class. The English plant continues several years, ours is annual. The flowrets of the English Saffron are purple, ours are yellow. Ours is called bastard-Saffron by the English. This kind is imported into England from the East Indies. The English Saffron after it is dried and made into cakes, does not average over 25 pounds to the acre. Saffron is used in medicine; and in Europe by dairy-women, confectioners, painters, dyers, &c. —*Hampshire Gazette.*

A new locomotive of great power and masterly machinery has been constructed for the New Castle and Frenchtown Rail Road, by Mr. E. A. G. Young, of Norfolk. The Beacon states, that on the first trial of the engine, notwithstanding the stiffness of the machinery, and without any headway being given to it, it ascended the inclined plane at Frenchtown, (the grade of which is 42 feet to the mile) with a load of 55 1-2 tons, at the rate of 12 miles per hour.—*Baltimore American.*

New Steam Carriage. A Manchester correspondent of the Globe says; "this day (Thursday se'night) a trial was made with a new steam carriage, built by Messrs. Sharp, Roberts & Co. of the place, carrying fifty to sixty persons; it went off in great style on the Oxford road, and did six miles in twenty minutes. This is a rate of travelling on the common road far surpassing any thing hitherto attempted, and will suggest the inquiry whether it will be necessary to go to the expense of making Rail Roads.

Experiment of Dr. Hunter. The celebrated Dr. Hunter gave one of his children a full glass of sherry every day after dinner for a week. The child was then about four years old, and had never been accustomed to wine. To another of the same family, under similar circumstances he gave a large orange for the same space of time. At the end of the week he found a very material difference in the pulse, heat of body, and state of bowels, of the two children. In the first the pulse was quickened, the heat increased, and the bowels deranged, whilst the second had every appearance of health. He then reversed the experiment, to the first he gave the orange, and to the second the wine. The effects followed as before; a striking evidence of the pernicious effects of vinous liquor on the functions of life in a full health.

Bottled Oysters. We saw a day or two since the neck of a common pint rum bottle found in an oyster bed in our harbor, and in which a number of erratic oysters had taken up their lodgings. They had most undoubtedly, introduced themselves when quite young, and had so snugly invested themselves to the inner surface, and became so firmly attached to their unnatural abode, that it was impossible to extricate them without actually breaking the bottle. In this predicament they died. They must have lived there a long time. The condition of these stupid oysters fitly illustrates the history of the tipler. He is introduced to the bottle in early life, and sucks away at its contents year after year—and becomes more and more cemented to it; it is at last the permanent abode of his unnatural appetite; in ninety nine cases out of a hundred, the rough hand of death alone can dissolve the connexion, and he dies as stupid as the oyster.—*Portsmouth Journal.*

Remedy for Ringworms. A correspondent of the American Farmer writes as follows: "After I had the tetter nearly twenty years on my hand, and had used a hundred dollars worth of tetter ointment, which took off the skin repeatedly without effecting a cure, a friend advised me to obtain some blood root (called also red-root, Indian paint, &c.) to slice it in vinegar, and afterwards wash the part affected with the liquid. I did so, and in a few days the scurf was removed, and my diseased hand was as whole as the other.

Asthma. We learn from an intelligent friend who has long been afflicted with this most distressing complaint, that the fumes of burning paper, saturated with a solution of saltpetre gives him perfect relief. He keeps a quantity of the paper—which has been simply soaked in strong saltpetre water, and afterwards dried—constantly on hand, and on the recurrence of a paroxysm obtains almost instant relief from burning half a sheet or a sheet in his room. Others who have been similarly affected, have tried it with a corresponding benefit. In no case has it been known to fail, so far as his information extends. We deem the testimony sufficient to warrant the publication of the prescription which certainly has the merit of simplicity. If it shall prove generally efficacious its value is beyond price. It can be readily tested.—*Newark Adv.*

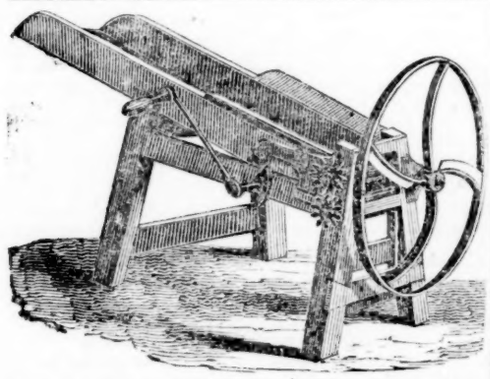
The Ærial Plant. The burning sands of hot climates, even at Karsfields of the Cape of Good Hope, which are so arid and scorched that no water can be extracted from them, are the media in which the most succulent vegetables of which we have any knowledge, flourish and evolve; so deleterious, indeed, is a wet season to their growth, that they are destroyed by it. There are also various tribes of vegetables that are destitute of roots and which can only be supported and nourished by the air, and by the moisture which the atmosphere contains. A large portion of the class Fuci, have no root whatever: and it is stated that the Ærial Epidendron, (the Epidendron Flos Æris,) denominated aerial from its extraordinary properties, and which is a native of Java, on account of the elegance of its leaves, the beauty of its flower, and the exquisite odor which it diffuses, is plucked up by the inhabitants and suspended by a silken cord, from the ceiling of their apartments, from whence it continues from year to year to put forth new leaves, to display new blossoms, and exhale new fragrance, although fed out of the simple bodies before stated.—*London Magazine.*

A Market House is to be erected in Philadelphia—the roof metallic plates, supported by iron columns.

GRINDSTONES ON FRICTION ROLLERS.

Grindstones of different sizes hung on Friction Rollers and moved with a treader, is found to be a great improvement on the mode of hanging grindstones, the case with which they move upon the rollers renders them very easy to turn with the foot, by which the labor of one man is saved and the person in the act of grinding can govern the stone more to his mind by having the complete control of his work.

The above Stones may be found of a very superior kind, and hung completely as above described at the Agricultural Warehouse, 51 & 52 North Market street. je 13



WILLIS'S IMPROVED STRAW & HAY CUTTER.

For sale at the Agricultural Warehouse 51 and 52 North Market street. The straw or hay cutter is a machine well worth the attention of every farmer, and should be in common use with every farmer feeding stock.

From the great improvement and simplicity of these machines of Willis's, the work is done with great ease and despatch, and requires but one person to operate it, which is not the case with any other machine, every farmer who is disposed to use his fodder to the best advantage and preserve his animals in the best health will in all cases cut their fodder. my21

FRUIT TREES.

ORNAMENTAL TREES, ROSES, FLOWERING PLANTS, &c. NURSERY of WILLIAM KENRICK in NEWTON, 5½ miles from Boston, by the City Mills.

This Nursery now comprises a rare and extraordinary collection of fruit trees, Trees and Shrubs of Ornament, Roses, &c. and covers the most of 18 acres. Of *new celebrated Pears alone*, 150 kinds, a part of which, having already been proved in our climate, are specially recommended.—Of Apples 200 kinds—Peaches 115 kinds—Cherries, 55 kinds—Plums, Nectarines, Almonds, Apricots, Quinces, Grape Vines, Currants, Raspberries, Gooseberries, Strawberries, Figs, &c. &c.—selections from the best varieties known—a collection in unequal proportions of 300 varieties of fruit.

White mulberries for silk worms—the fruit poor. Also the MORUS MULTICAULIS or *New Chinese Mulberry*, a beautiful fruit tree, so superior for silk worms to all others.

Of ROSES. A superb collection of from 300 to 400 hardy and China varieties; selections from numerous importations, and first rate sources. White Flowering Horse Chesnuts. Weeping Willows, Catalpas, Mountain Ash, Silver Firs, Venetian Sumach, Altheas, Honeysuckles, Azaleas, &c. &c.—in all, of Ornamental trees, and shrubs, 650 varieties. Of Herbaceous flowering plants, a choice selection of 200 varieties, including the Paeonies, *Moutan and Papareracea*—and 24 other kinds—and 83 splendid varieties of double Dahlias.

Gentlemen are invited to forward their orders early Address to WILLIAM KENRICK, NEWTON. Trees, &c. delivered in Boston free of charge for transportation, and suitably packed, and from thence when ordered duly forwarded, by land or sea. Or orders will receive the same attention if left with GEO. C. BARRETT, who is agent, at his seed store and New England Farmer Office, Nos. 51 & 52, North Market Street, Boston. Catalogues gratis on application. Jy 17

GOOSEBERRIES.

A new importation of superior kinds, just received, of all colors, by WM. KENRICK, Newton.

TURNIP SEED.

For Sale at the N. E. Seed Store, 51 and 52 North Market street, Early Dutch Turnip, Early Garden Stone ditto, Yellow Stone do.; White Flat Winter do.; Long Yellow French do.; Yellow Aberdeen do; Ruta Baga do.

The two last are excellent kinds for Cattle. je 18

DAMAGED BISHOPS LAWN AND MUSLINS.

ELIAB STONE BREWER, at No. 414 Washington Street, will open for sale this day,

1 Case wet (but not damaged) Bishops Lawn.
1 do. do. do. Book Muslin.

Also, 1 do. Superfine 6-4 Cambric Dimoties, which will be offered by the Piece at 25 per cent. less than cost of importation. m 14

STRAW CARPETING.

ELIAB STONE BREWER, No. 414 Washington street, has received a lot of 106 pieces superior straw carpeting white and fancy checks, 5-4, 6-4, and 7-4 widths, which he will sell by the piece or yard at very low prices. Also, Canton Straw table matts. istf. a 16.

BRASS SYRINGES.

Just received at the Agricultural Warehouse, a good assortment of Willis's improved Brass SYRINGES for Green Houses, Grape Vines, &c. &c.—see Complete Farmer, page 345. je 4 J. R. NEWELL.

ZINC WARE.

Just received, a further supply of Zinc Milk Pans, Kettles and deep Bake Pans, and for sale at the Agricultural Ware-House, No. 51 and 52 North Market Street.

The manufacturers of this article having closed their works, no more of them can be procured at present.—and as the season is at hand when these are most wanted, and as they are found on trial to produce a great increase of Milk, they are highly recommended to the public as one of the improvements of the day. my 14

BOSTON TRUSS MANUFACTORY.

JAMES P. FOSTER, Successor to the late John Beath, at the sign of the Eagle and Truss, No. 383 Washington street. Trusses made to order and fitted to the patient. All sorts of repairing done to Trusses in the best manner.

Among the variety of Trusses made and sold by J. F. Foster, are Patent Elastic Spring Trusses, with Spring Pads—Trusses without steel springs. These give relief in all cases of rupture, and in a large portion produce a perfect cure. They can be worn day and night. Improved Flange and Pivot Trusses, Umbilical Spring Trusses, and Trusses with ball and socket joints.

Suspensory Trusses for individuals troubled with Hydrocele are always kept on hand, together with all the other kinds made by Mr. Beath, formerly.

The former friends and customers of Mr. Beath are respectfully invited to call as above, where they will be faithfully and personally attended to by Mr. FOSTER. LYDIA BEATH.

N. B. Ladies wishing for either Trusses or Backboards will be waited upon by Mrs. Beath, at her residence, 585 Washington street. L. B.

PRICES OF COUNTRY PRODUCE.

		FROM	TO
APPLES, russets,	barrel	2 75	3 00
BEANS, white,	bushel	2 00	2 12
BEEF, mess, (new)	barrel	10 00	
Cargo, No. 1	"	7 75	8 00
prime,	"	6 00	6 25
BEESWAX, (American)	pound	18	22
BUTTER, inspected, No. 1, new,	"	12	14
CRANBERRIES,	bushel	3 00	3 25
CHEESE, new milk,	"	8	9
skimmed milk,	"	3½	5
FEATHERS, northern, geese,	"	40	45
southern, geese,	"	35	40
FLAX, American,	pound	9	10
FLAXSEED,	bushel	1 37	1 62
FLOUR, Genesee, cash.	barrel	5 00	5 25
Baltimore, Howard str. new	"	5 37	
Baltimore, wharf,		5 25	5 50
Alexandria,	"	5 25	5 37
GRAIN, Corn, northern yellow,	oushel	70	72
southern yellow,	"	65	67
white,	"	66	68
Rye, (scarce) Northern,	"	65	75
Barley,	"	65	67
Oats, Northern, (prime)	"	40	43
HAY, best English,	ton	20 00	21 00
Eastern screwed,	"	12 00	13 00
Hard pressed,	"	13 00	15 00
HONEY,	gallon	36	46
HOPS, 1st quality	pound	9	12
2d quality	"	7	8
LARD, Boston, 1st sort,	pound	9	10
Southern, 1st sort,	"	7	8½
LEATHER, Slaughter, sole,	"	15	17
" upper,	lb.	10	12
Dry Hide, sole,	pound	15	17
" upper,	lb.	16	20
Philadelphia, sole,	pound	23	25
Baltimore, sole,	"	22	24
LIME, best sort	cask	85	90
PORK, Mass. inspec., extra clear,	barrel	17 00	18 00
Navy, Mess,	"	13 50	14 00
Bone, middlings,	"		
SEEDS, Herd's Grass,	bushel	2 37	2 50
Red Top, northern, (none)	"		
Red Clover, northern,	pound	7	8
White Dutch Honeysuckle	"	28	33
TALLOW, tried,	cwt	7 00	7 50
WOOL, prime or Saxony Fleeces,	pound	58	62
American, full blood, washed	"	50	55
do. 3-4ths do.	"	45	50
do. 1-2 do.	"	37	42
do. 1-4 and common	"	30	35
Native washed,	"	38	40
Northern pulled. Pulled superfine,	"	50	55
Northern pulled. 1st Lambs,	"	43	46
Northern pulled. 2d "	"	30	35
Northern pulled. 3d "	"	25	28
Northern pulled. 1st Spinning,	"	45	48

Southern pulled wool is generally 5 cts. less per lb.

PROVISION MARKET.

RETAIL PRICES.

HAMS, northern,	pound	9½	10
southern,	"	8	9
PORK, whole hogs,	"	6½	7
POULTRY, (uncertain)	"		
BUTTER, (tub)	"	12	14
lump, new,	"	18	20
EGGS,	dozen	14	15
POTATOES,	bushel	28	33
CIDER, (according to quality,)	barrel	2 00	3 00

Faneuil Hall Vegetable Market, June 18, 1834.

Asparagus, 8 cents a bunch—Radishes, 3 cents—New Onions, 4 cents—Turnips, 3 cents—Lettuce, 3 cents—Cucumbers, from 12 to 17 cents a piece—Peas, $2 a bushel—Strawberries, from 50 to 75 cents a box—Gooseberries, 12 to 17 cents a box.

BRIGHTON MARKET.—MONDAY, June 16, 1834.

Reported for the Daily Advertiser and Patriot.

At Market this day, 296 Beef Cattle, (including 30 unsold last week); 12 cows and calves, and 385 swine—95 Beef Cattle were left within a few miles of the market, and are not sold.

PRICES. *Beef Cattle*—Sales were but a very little lower than last week. We quote prime at 6 a 25; good at 5 50 a 5 75; thin at 4 50 a 5 25.

Cows and Calves—We noticed sales at 22, 24, 27, 30, and 35.

Sheep and Lambs—Lots of lambs with a few old sheep were taken at 1 75, 2, 2 17, 233, and 242.

Swine—We noticed one lot sold, nearly all barrows, at 6 1-4 at retail 6 1-2 a 7 for sows, and 7 1-2 a 8 for barrows.

MISCELLANY.

From Mellen's Poems.

THE HOST OF NIGHT.

Look at the host of night—
These silent stars!
What have they known of blight,
Or heard of wars!

Were they not marshall'd there,
These fires sublime,
Gemming the midnight air
Ere earth knew time!

Shine they for aught but earth,
These silent stars!
And when they sprung to birth
Who broke the bars,

And let their radiance out,
To kindle space?
When rang God's morning shout
O'er the glad race!

Are they imbedded there,
These silent stars!
Or do they circle air
On brilliant cars!

Range they in frightful mirth
Without a law—
Or stand they above earth,
In changeless awe!

Are they all desolate,
These silent stars—
Hung in their spheres by fate
Which nothing mars!

Or are they guards of God—
Shining in prayer!
On the same path they've trod
Since light was there!

STARS.

Many stars which were marked by the ancients in their catalogues are no longer seen, but others are visible which were unknown to them. While a very few have receded, others have gradually increased in brilliancy. Some astronomers are of the opinion that the whole of our solar system is moving onward toward the constellation Hercules. If this be true, then it is very certain that the class of magnificent worlds, to which this globe belongs are revolving in an orderly manner, round some great central point of attraction, of which the human eye has never had a view. In the course of the last one hundred and fifty years some of the fixed stars appear to have moved. The star Arcturus has moved three minutes and three seconds in seventy-eight years. No fact has been more satisfactorily demonstrated, than that the law of gravity operates positively, from the sun to the planet Herschel, *eighteen hundred millions of miles*, and it is therefore probable, that the heavenly bodies which are discoverable with telescopes of the greatest power, are in subjection to some vast, inconceivably vast, central globe, self balanced somewhere in celestial space; and that may be the resplendent throne of God.

RESULT OF ACCIDENT.

Many of the most important discoveries in the field of science have been the result of accident. Two little boys of a spectacle maker in Holland, while their father was at dinner, chanced to look at a distant steeple, through two eye glasses placed before one another. They found the steeple brought much nearer than their shop windows. They told their father on his return; and the circumstance led to a course of experiments, which ended in the telescope. Some shipwrecked sailors once collected some sea weeds on the sand, and made a fire to warm their shivering fingers, and cook their scanty meal. When the fire went out they found that the alkali of the sea weed had combined with the sand, and formed glass; the basis of our discoveries in astronomy, and absolutely necessary to our enjoyment. In the days when every astrologer, and every chemist was seeking after the philosopher's stone, some monks carelessly making up their materials, by accident invented gun powder, which has done much to diminish the barbarities of war. Sir Isaac Newton's most important discoveries—concerning light and gravitation—were the result of accident. His theory and experiments on light were suggested by the soap bubbles of a child; and on gravitation by the fall of an apple, as he sat in the orchard. And it was by hastily scratching on a stone, a memorandum of some articles brought him from the washerwoman's, that the idea of lithography first presented itself to the mind of Shenfelder.—*Am. Mag.*

WORTHY EXAMPLE OF ECONOMY.

Matthew Carey, speaking of his marriage, says, "My wife was about ten years younger than me. She was industrious, prudent and economical, and well calculated to save whatever I made. She had a large fund of good sense. We early formed a determination to indulge in no unnecessary expense, and to mount the ladder so slowly as to run no risk of having to descend. Happy, thrice happy would it be for thousands and tens of thousands, if they adopted and persevered in this saving course. What masses of misery would it not prevent! Some idea may be formed of the fidelity with which we observed this rule, when I state, that at a time when I did business to the amount of forty or fifty thousand dollars per annum, I hesitated four or five years about changing my gig for a one horse four-wheel carriage—and nearly as long about purchasing a carriage and pair. And during the whole period of our marriage, I never, as far as I recollect, entered a tavern except on a jury or arbitration, or to see a customer, or at a public dinner, or on my travels—never in a single instance for the purpose of *drinking*."

NATIONAL MEMENTOS.

In the English House of Lords, the Lord Chancellor is seated on a woolsack, that the importance of the woollen manufacture, the great staple of that country may be indelibly impressed on the public mind.

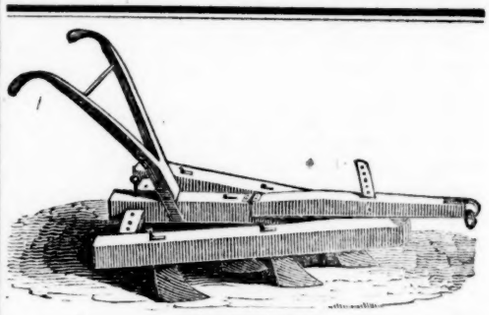
When the first Congress met after the adoption of the Federal Constitution, it was in contemplation, but afterwards abandoned, to have the seats of each delegation wrought with some device, descriptive of the staples of their several States, viz.

New-Hampshire to be represented by a pine-tree.
Massachusetts, by a barrel of fish.
Rhode-Island, a hamper of cheese.
Connecticut, an ox.
New-York, a hogshead of flaxseed.
New-Jersey, a bundle of flax.
Pennsylvania, a bag of wheat.
Delaware, a bag of wool.
Maryland, pig and bar iron.
Virginia, a hogshead of tobacco.
North Carolina, a barrel of tar.
South Carolina, a bag of cotton.
Georgia, a barrel of rice.—*Boston Atlas.*

CURE FOR THIRST.

Of boiling soft water take three quarters, and of fresh tamarinds one quarter—put them together in an earthen jar for three or four hours—strain off the liquor—bottle it, and in about four weeks it will be fit for use—and a wine glass full of it in hot weather is one of the most agreeable, healthful nectars, and most powerful extinguishers of thirst ever discovered.

Although the tongue has no bones, it breaks bones.



CULTIVATOR.

Jut received at the Agricultural Warehouse, a few of Seaver's mproved expan ding Cultivators, for weeding among Corn, Potatoes, &c. &c. je 4

VALUABLE NEW WORK ON AGRICULTURE.

This day Published, by Geo. C. Barrett, at the Office of the N. E. Farmer,—The

COMPLETE FARMER and RURAL ECONOMIST,
By Thos. G. Fessenden, Esq.

Containing a compendious epitome of the most important branches of Agriculture and Rural Economy, and the following subjects arranged in order:

Soils,	Wheat,	Beans,	Mangel Wurtzel,
Grasses,	Rye,	Swine,	Ruta Baga,
Grain,	Oats,	Lime & Gypsum,	Potatoes,
Neat Cattle,	Barley,	Fences,	Haymaking,
Barns,	Millet,	Hedges,	Ploughing,
Dairy,	Hops,	Sheep,	Poultry,
Hemp,	Peas,	Horses,	Wood:
Flax,			

and to which is added—Descriptions of the most approved Implements and Machines, *with Engravings.*

The work is printed on the best of paper, and is intended for a Farmer's Directory, which every farmer should be possessed of, and relying upon an extensive sale will be afforded at the low price of $1.

[*From the New England Magazine of June* 1st, 1834.]

All men love a farm and a garden, and Mr. Fessenden is better qualified than any other man in New-England to compose a good work on these practical subjects—albeit he was in his youth addicted to the less profitable pursuits of wit and poetry. This work should be on the shelf of every farmer's library: there is much in it to guide him and nothing to lead him astray. All is practical, nothing is speculative. It embraces the entire transactions of a farm. The materials for the work must have been collected through many years. Excellence is comparative—and any traveller in England may there best notice the defects of American husbandry. Still, however, it is with caution that in our soil and climate we should adopt the English modes of cultivation.

The soils are first treated of, then grasses, grain, cattle, animals, dairy, manures, harvesting, poultry, implements, &c. &c.

Those who would have a choice of implements may choose among many at the New-England Agricultural Warehouse. Here is every facility for saving labor and increasing crops; and the implements that are not useful—if any such there be—are studies of ingenuity. All are made in the best manner, and they are in some sort an illustration of Mr. Fessenden's book, many being neatly delineated in it.

THE NEW ENGLAND FARMER

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☞ No paper will be sent to a distance without payment being made in advance.

Printed for Geo. C. Barrett by Ford & Damrell, who execute every description of *Book and Fancy Printing* in good style, and with promptness. Orders for printing may be left with Geo. C. Barrett, at the Agricultural Warehouse, No. 52, North Market Street.